Amendments to the Claims:

(This listing of claims replaces all prior versions and listings of claims.)

1. (previously presented) A machine-based method for use in processing a digital image that includes first and second regions, the method comprising:

estimating an intrinsic color of a given pixel located in an area of interest that is adjacent to at least one of the first and second regions, the estimating comprises extrapolating from colors of multiple pixels in one of the first and second regions and multiple pixels in the other of the two regions, and

storing the intrinsic color of the pixel for later use.

2. (previously presented) The method of claim 1 in which the given pixel has an original color that relates to the original colors of pixels in both the first and second regions, and the estimated intrinsic color of the given pixel relates to original colors in only one or the other of the first and second regions.

3. (previously presented) The method of claim 1 in which the area of interest includes one of the first and second regions.

4. (previously presented) The method of claim 1 in which the area of interest is adjacent to both of the first and second regions.

5. (previously presented) The method of claim 1 in which the first region comprises a foreground object and the second region comprises a background.

6. (previously presented) The method of claim 1 in which the first and second regions may have any arbitrary degree of color variation in the visible spectrum over a spatial scale that is on the same order of magnitude or smaller than the minimum span of the area of interest.

7. (previously presented) The method of claim 1 in which the estimating comprises analyzing both the color and spatial proximity of pixels in the first and second regions.

8. (previously presented) The method of claim 1 in which the estimating comprises extrapolating from the closest pixels in the first and second regions.

9. (previously presented) The method of claim 1 in which the estimating comprises flowing colors into the area of interest from one or both of the first and second regions.

10. (previously presented) The method of claim 9 in which the flowing of colors comprises averaging of color values for each of a set of pixels in the first region and a set of pixels in the second region.

11. (previously presented) The method of claim 1 in which the digital image comprises layers of pixel information and the estimating is based on pixel information in only one of the layers.

12. (previously presented) The method of claim 1 in which the digital image comprises layers of pixel information and the estimating is based on pixel information in a composition of all the layers.

13. (previously presented) The method of claim 1 further comprising determining an opacity value for the given pixel, indicative of the extent to which the intrinsic color of the given pixel relates to original colors in the first and second regions, based on a result of the estimating of the intrinsic color.

14. (previously presented) The method of claim 13 in which the given pixel includes original opacity information, and the opacity value is also based on the original opacity information.

15. (previously presented) The method of claim 13 further comprising determining opacity values for other pixels that have intrinsic colors that relate to original colors in the first and second regions.

16. (previously presented) The method of claim 13 in which the opacity determination comprises use of a neural network trained on the image original colors and estimated intrinsic colors.

17. (previously presented) The method of claim 13 further comprising using the opacity value to composite one of the first and second regions with another digital image.

18. (previously presented) The method of claim 1 in which the estimating also includes extrapolating estimates of intrinsic colors of the first and second regions using searches in color space and image coordinate space.

19. (previously presented) The method of claim 1 in which the estimating assumes a linear blending model.

20. (previously presented) The method of claim 1 in which the estimating includes flowing colors from edges of the area of interest to fill the area of interest with estimates of the colors of the first and second regions.

21. (previously presented) The method of claim 1 further comprising

extracting from the digital image the intrinsic colors of the given pixel and of other pixels that have intrinsic colors that relate to original colors in the first region or second region.

22. (previously presented) The method of claim 21 further comprising using the extracted intrinsic colors to composite the first region or the second region with another digital image.

23. (previously presented) The method of claim 1 further comprising

receiving from an interactive user interface information that identifies the area of interest.

24. (previously presented) The method of claim 1 in which estimating the intrinsic color comprises

determining two color sample sets for the given pixel, each of the color sample sets being associated with one of the first and second regions, and

estimating the intrinsic color based on the two color sample sets.

25. (previously presented) The method of claim 24 in which estimating the intrinsic color comprises comparing the original color of the given pixel with colors in the color sample sets.

26. (previously presented) The method of claim 24 further comprising

determining an opacity for the given pixel indicative of the extent to which the intrinsic color of the given pixel relates to original colors in both of the first and second regions, where the determination of opacity includes comparing the original color of the given pixel with colors in the color sample sets.

27. (previously presented) The method of claim 26 in which the given pixel includes original opacity information and the determination of opacity is also based on the original opacity information.

28. (previously presented) The method of claim 24 in which the color sample sets are derived from colors of pixels in the first and second regions.

29. (previously presented) The method of claim 24 in which a single color is selected from each of the color sample sets based on an error minimization technique.

30. (previously presented) The method of claim 1 in which the intrinsic colors of all of the pixels in the area of interest are determined automatically.

31 – 42. (cancelled).

43. (previously presented) A method for use in processing a digital image, comprising

receiving a mask associated with an area of interest in the digital image, the mask including values representing opacities of pixels in the region of interest with respect to an adjacent region of interest, and

based on the mask, estimating intrinsic colors for the pixels.

44. (previously presented) A machine-based method for use in extracting a foreground region from a background region of an image, comprising

enabling a user to control an original extraction by manipulating a brush on a display of the image,

enabling a user to control a touch up extraction following the original extraction, and

considering a pixel identified for touch up extraction only if the pixel was of uncertain color in the original extraction.

45. (previously presented) The method of claim 44 in which an intrinsic color is determined for each of the pixels that were of uncertain color based on a forced foreground or background color.

46. (previously presented) The method of claim 44 in which the forced color is selected by the user.

47. (previously presented) The method of claim 44 in which the forced color is determined automatically from the original colors within the foreground region.

48. (previously presented) A method for use in determining, for each pixel in an area of interest in a digital image, the nearest pixel in a first region of the image that is adjacent to the

area of interest and the nearest pixel in a second region of the image that is adjacent to the area of interest, the method comprising

defining a processing area that is smaller than the image,

defining a pixel window that is smaller than the defined processing area,

scanning the processing area to a succession of overlapping positions that together span the image

at each overlapping position of the processing area, scanning the pixel window across the processing area, and

at each position of scanning of the pixel window, updating stored information for pixels in the window, the stored information relating to nearest pixels in the first and second regions.

49. (previously presented) The method of claim 48 in which the processing area comprises a rectangle twice as long is high, and in each of the succession of positions the processing area is offset from the prior position by half the length of the rectangle.

50. (previously presented) The method of claim 48 in which the pixel window comprises a square.

51. (previously presented) The method of claim 48 in which the scanning of the processing area and the scanning of the pixel window occur in both forward and backward passes that span the image.

52. (previously presented). The method of claim 48 further comprising

extrapolating colors from the nearest pixels.

53. (previously presented) The method of claim 48 in which the first region comprises a foreground object, the second region comprises a background, and at least some pixels in the area of interest have uncertain color.

54. (previously presented) A machine-based method for a user to extract an object from a background in an image, comprising

displaying the image,

selecting a painting tool and adjusting its characteristics,

using the painting tool to paint a swath around the object,

the swath including pixels whose membership in the object or the background are uncertain and including pixels that with certainty belong to the object and to the background

indicating at least one pixel that is known to belong to the object or the background,

invoking a program to perform the extraction,

observing whether the quality of the extraction, and

depending on the observation, using a painting tool to control a touch-up extraction.

55. (previously presented) A medium bearing a computer program capable of controlling a computer to process a digital image that includes first and second regions by:

estimating an intrinsic color of a given pixel located in an area of interest that is adjacent to at least one of the first and second regions, the estimating comprises extrapolating from colors of multiple pixels in one of the first and second regions and multiple pixels in the other of the two regions, and

storing the intrinsic color of the pixel for later use.

56. (cancelled).

57. (previously presented) A medium bearing a computer program capable of controlling a computer to extract a foreground region from a background region of an image by

enabling a user to control an original extraction by manipulating a brush on a display of the image,

enabling a user to control a touch up extraction following the original extraction, and

considering a pixel identified for touch up extraction only if the pixel was of uncertain color in the original extraction.

58. (previously presented) A system for use in processing a digital image that includes first and second regions, the system comprising:

means for estimating an intrinsic color of a given pixel located in an area of interest that is adjacent to at least one of the first and second regions, the estimating comprises extrapolating from colors of multiple pixels in one of the first and second regions and multiple pixels in the other of the two regions, and

means for storing the intrinsic color of the pixel for later use.

59. (cancelled).

60. (previously presented) A system for use in extracting a foreground region from a background region of an image, comprising

means for enabling a user to control an original extraction by manipulating a brush on a display of the image,

means for enabling a user to control a touch up extraction following the original extraction, and

means for considering a pixel identified for touch up extraction only if the pixel was of uncertain color in the original extraction.